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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/649,925	08/25/2003	Radovan Kovacevic	021791.0109	6118

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EXAMINER	
KASENGE, CHARLES R	
ART UNIT	**PAPER NUMBER**
2125	

DATE MAILED: 12/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/649,925	KOVACEVIC ET AL.	
	Examiner	Art Unit	
	Charles R Kasenge	2125	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12,15-24 and 26-30* is/are rejected.

7)☒ Claim(s) *13,14 and 25* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-4, 6, 7, 9-12, 15-24, 26-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Mok et al. U.S. Patent Application Publication 2002/0147521. Referring to claims 1, 15, 26-28, and 30, Mok discloses a system for fabricating a part (abstract), comprising: a computer operable to control the fabrication of a three-dimensional part using digital engineering data (pg. 1, paragraph 2); a deposition station operable to deposit successive two-dimensional layers of material to fabricate the three-dimensional part (pg. 1, paragraph 2), the deposition station comprising: a substrate on which to fabricate the three-dimensional part (pg. 1, paragraph 7); a welding-based deposition system comprising a welding torch (pg. 2, paragraph 27); a laser-based deposition system comprising a laser head (pg. 6, paragraph 117); a plasma powder cladding system comprising a plasma torch (pg. 6, paragraph 123); and a multi-axis robot operable to, when directed by the computer, utilize one of the welding-based deposition system, laser-based deposition system, and plasma powder cladding system to deposit any of the two-dimensional layers of material (pg. 7, paragraph 127); and a machining station operable to remove at least a portion of one or more of the deposited two-dimensional layers of

material (pg. 2, paragraph 27), the machining station comprising: a multi-axis milling machine (pg. 2, paragraph 27); and an automatic tool changer associated with the milling machine, the milling machine operable to, when directed by the computer, select from a plurality of machining tools associated with the automatic tool changer for use in the milling machine (pg. 2, paragraph 31).

Referring to claims 2-4, 16, 18, and 29, Mok discloses the system of Claim 1, further comprising an inspection station operable to inspect the three-dimensional part for dimensional accuracy at any time during the fabrication of the three-dimensional part (pg. 4, paragraph 84). Mok discloses the system of Claim 1, wherein the inspection station is operable to scan a completed part and wherein the computer is operable to generate and store a solid CAD model of the completed part for subsequent use in fabricating a new part of the same geometrical configuration (pg. 2, paragraph 29). The system of Claim 1, wherein the welding-based deposition system further comprises a wire feeder and wherein the welding-based deposition system is selected from the group consisting of a gas metal arc welding system and a gas tungsten arc welding system (pg. 6, paragraph 123 and 124).

Referring to claims 9-11, 17, 23, and 24, Mok discloses the system of Claim 1, wherein the multi-axis milling machine is operable to perform a machining process selected from the group consisting of milling, drilling, boring, reaming, tapping, grinding, polishing, and vertical Turing (pg. 6, paragraph 116). Mok discloses the system of Claim 1, wherein the computer comprises a CAD/CAM application operable to store a solid CAD model and control the deposition station and the machining station based on the solid CAD model to fabricate the three-dimensional part (pg. 1, paragraph 2). Mok discloses the system of Claim 10, wherein the

computer is operable to control the heat input into any of the two-dimensional layers based upon the geometry of a predetermined CAD Data file from the solid CAD model (pg. 3, paragraph 54).

Referring to claim 12, Mok discloses the system of Claim 1, wherein the deposition station further comprises a powder delivery system, the powder delivery system comprising: a hopper adapted to contain a powder and continuously feed the powder through an output of the hopper (pg. 6, paragraph 125); a metering device adjacent the output of the hopper, the metering device adapted to receive the powder continuously fed through the output of the hopper; and a vacuum powder removal device operable to remove the powder from the top surface via a vacuum (pg. 7, paragraph 137).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 5, 6, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mok as applied to the claims above, and further in view of Kar et al. U.S. Patent 6,526,327. Mok does not expressly disclose using a Nd:YAG or diode laser deposition system, but does disclose a general laser deposition system (pg. 1, paragraph 2). Kar discloses using a Nd:YAG or diode laser deposition system for a fabrication process (col. 8, lines 43-49).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use Nd:YAG or diode laser deposition systems for Mok's fabrication process system. One of ordinary skill in the art would have been motivated to do this since Kar discloses using the different types of lasers for differing levels of intensity needed (col. 8, lines 43-49).

5. Claims 8 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mok as applied to the claims above, and further in view of Davies et al. U.S. Patent 6,349,600. Mok does not expressly disclose the milling machine comprising of 4-axis CNC machine having a 3-axis work table, however Davies does (col. 10 and 11, lines 66-67).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use the different milling configuration for Mok's fabrication process system. One of ordinary skill in the art would have been motivated to do this since Davies the configuration as decreasing the cost of production (col. 1, lines 54-67).

Allowable Subject Matter

6. Claim 13, 14, and 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

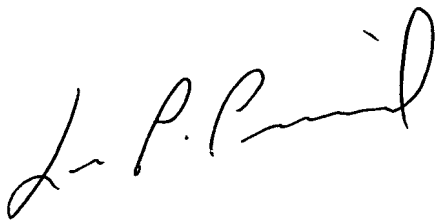
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles R Kasenge whose telephone number is 571 272-3743. The examiner can normally be reached on Monday through Friday, 8:30 - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on 571 272-3749. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

December 8, 2004
CK



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